Yakima Valley Transportation Company
Interurban Railroad
Connects towns of Yakima, Selah
and Wiley City
Yakima vicinity
Yakima County
Washington

HAER No. WA-13

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PHOTOGRAPHS
WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Record
Western Region
National Park Service
U. S. Department of the Interior
San Francisco, California 94102

HISTORIC AMERICAN ENGINEERING RECORD

Yakima Valley Transportation Company
Interurban Railroad

HAER No. WA-13

Location:	Connects the cities of Yakima, Selah, Henrybro and Wiley, Yakima County, Washington UTM: 10.5163000.690810 Quad: Yakima West
Date of Construction:	1907-1913
Engineer:	Edward M. Kenly
Present Owner:	Oregon Short Line Railroad Company, a subsidiary of Union Pacific Railroad Company, 1416 Dodge Street, Omaha, Nebraska 68179
Present Use:	Electric interurban freight railroad. To be abandoned and donated to city of Yakima in 1985
Significance:	The Yakima Valley Transportation Company is one of the country's last intact, authentic electric interurban railroads. It owns the oldest, regularly-operating locomotives (75 years old) in conjunction with a Class 1 railroad in the United States. Since the period of the railroad's construction in the early 1900s, it has not undergone any major changes except for a reduction in size. It is an outstanding example of typical early twentieth century American interurban railroad construction and operation. The railroad and its rolling stock, buildings and appurtenances were deemed eligible for inclusion in the National Register of Historic Places in 1984.
Report prepared by:	Kenneth G. Johnsen, D.D.S. 314 South Fourth Avenue Kent, Washington 98032 September 1985
Edited, Retyped and Transmitted by:	Jean P. Yearby, HAER, 1987

Introduction

The Yakima Valley Transportation Company (which will be referred to as YVT) owns and operates an electric interurban freight railroad from Yakima, Washington, to the surrounding communities of Selah, Henrybro, and Wiley City. Several spurs connect the main lines to various shipping customers. One spur connects to an interchange yard with the Union Pacific Railroad in Yakima. The YVT is a wholly-owned subsidiary of the Oregon Short Line Railroad, which in turn is a subsidiary of Union Pacific System. YVT currently operates over twenty-one miles of track. At its maximum in 1920, the railroad was slightly over 43 miles in length.

The railroad's central shop complex (car barn), yard office, and primary substation are located on a parcel of land in Yakima's industrial district at Third Avenue and Pine Street. A secondary substation is located west of Yakima, at a point called Wide Hollow Junction.

There is one major bridge on the railroad over the Naches River between Yakima and Selah. There are numerous creeks that meander across YVT's right-of-way. There is a roadway overpass approximately one mile east of Wide Hollow Junction.

All of the tracks leading away from downtown Yakima encounter uphill grades. The steepest grade is in Selah Gap on the line to Selah. The railroad's highest elevation (1,400 feet) is at Henrybro.

The YVT owns three electric locomotives and one diesel locomotive. During its early construction years, YVT operated a steam locomotive over portions of trackage that had not yet been equipped with overhead electrical wires. Thereafter, it operated electric locomotives exclusively with 600 volt D.C. power supplied by the overhead wires. In 1983, the diesel locomotive was purchased.

The electrical system and the electric locomotives have been maintained in serviceable condition as a backup to the diesel. The electric locomotives perform a portion of the railroad's work from time to time. As such, the YVT represents one of the last intact, operating, electric-powered interurban railroads in the United States.

A detailed description of the various components that make up the YVT system follows, beginning with the routes.

Historical Background

Development of the YVT began in 1900. Edward Whitson, Mayor of Yakima (then called North Yakima) announced in that year that an electric railroad system

was being planned. Yakima, at that time, was a young town at the edge of the desert, the offspring of the Northern Pacific Railway.

Whitson planned to finance the new railway system with capital from eastern financiers and stock subscriptions from local investors. Apparently, neither were forthcoming, because the idea quietly died.

In 1902, Whitson again proposed the trolley plan. This time, he spoke to members of the Yakima Commercial Club (a sort of Chamber of Commerce in those days). The town's leading businessmen and property owners belonged to the Commercial Club. Upon hearing Whitson's proposal, they established a "Committee in Charge of the Electric Railroad Project" to survey a route, acquire right-of-way, and develop the railroad. This time, they even got as far as giving the railroad a name, the Yakima Valley Central Railroad.

Finances also foiled the 1902 plan. Local stock subscriptions were supposed to underwrite the estimated $700,000.00 construction cost, and that kind of money simply was not available from Yakima investment circles.

The need for the electric interurban railroad was based mainly on the growing status of agriculture in and around Yakima Valley. One may assume that public transit needs and civic pride also were responsible for the push to build a railroad. But study of period maps shows that virtually all of the railroad's eventual extensions were designed to tap agricultural areas that were then developing.

This scheme of farmland development was typical in the beginning of the twentieth century throughout the United States. In Washington State, other similar electric railroad systems were springing up in cities such as Spokane and Walla Walla.

Real estate development, as well as agriculture, was a major spur to electric interurban railroad construction. The names of the men in Yakima's Commercial Club who had promoted the "Yakima Valley Central" were the same names seen in real estate advertisements of the day.

One of the most ardent trolley proponents was William P. Sawyer, a prominent landowner in the lower valley. Sawyer, more than anyone else, kept the idea alive after it faltered in 1902. He conferred with other landowners all around Yakima and wrote letters to the editors of Yakima's newspapers.

In 1906, another attempt was made to establish an electric railway, and this time it succeeded. The people behind this effort were mostly the same ones from 1902. They sought financial backing from both local and outside financiers. And when eastern capitalists actually did visit Yakima to study the project's feasibility, local promoters used the occasion to encourage local residents to subscribe to stock in the new street railroad.

In June 1906, the Yakima Inter-Valley Traction Company was formally organized. Its president was prominent realtor Henry B. Scudder. Among the other twenty realtors and landowners who comprised its board of trustees was the familiar William P. Sawyer.

Outside financial backing did not materialize, but the trolley men were undaunted. They felt the time was ripe and they pushed ahead. A 40-year franchise was obtained from the city of Yakima on October 15, 1906, and another from Yakima County on March 12, 1907.

Construction did not begin, however, because of a shortage of funds. Scudder was blamed, rightly or wrongly, for mismanaging the company and a reorganization took place in June 1907. The name given the new railroad was the one that finally stuck, the Yakima Valley Transportation Company.

A. J. (Jack) Splawn was elected president of the new company. Splawn was a colorful local personality. He was one of the earliest settlers in the Yakima Valley. He had married an Indian woman and homesteaded a large tract of land. He eventually went on to become on of Yakima's mayors.

The board of trustees of the new company included, among others, Splawn, Sawyer, and George S. Rankin, the new general manager. Rankin's first official task was to locate some cheap, local, secondhand equipment to get the YVT going. From Seattle, he acquired a dynamo to convert alternating current into direct current for use by trolley cars and locomotives. From Tacoma, he leased two out-of-service streetcars.

Some rail and wire were acquired and soon three miles of track were ready for use, beating by seven days a deadline spelled out in the railroad's franchise. On December 25, 1907, the first public runs were made on the YVT.

Edward M. Kenly was the engineer for the system. Kenly not only supervised track and overhead wire construction, but he also drew up specifications for new trolley cars and locomotives that the railroad would soon be ordering. Most of the buildings and other construction projects that the railroad later undertook were based on Kenly's design.

Local capital apparently was not enough to produce much more than three miles of track. General Manager Rankin, therefore, went to the East Coast in an earnest search for capital. A tentative deal was struck with an eastern syndicate, only to fall through.

The original three miles of track started at Yakima Avenue and the Northern Pacific (now Burlington Northern) tracks and proceeded westward. In 1908, YVT crossed the Northern Pacific tracks and slowly built eastward along Yakima Avenue and then south to the State Fairgrounds. Also in 1908, the leased equipment was returned and YVT's first three trolleys and first motor-generator set were placed into service.

By the Spring of 1909, however, the railroad was still only about six miles long. Expansion into the agricultural districts of the county was still not possible because of limited capital. Another railroad was then about to enter the Yakima Valley from the south. Called the North Coast Railway, this line actually was backed by the Oregon Railroad & Navigation Company, a part of the Union Pacific System.

Splawn and Rankin held a series of secret meetings with Robert Strahorn, president of the North Coast Railway. These culminated in June 1909 with the takeover of the YVT by the Oregon Railroad & Navigation Company.

The financial backing of the parent Union Pacific was quickly felt. N. C. (Nick) Richards, a shrewd young lawyer from Baker, Oregon, was installed as the new YVT president. Under his direction, YVT expanded in all directions. Lines on North Fourth Street, North Eighth Street, Maple Street, and Fairview were all immediately pushed to completion. To the west, construction started on the Wiley City and Henrybro lines.

The first true interurban route of the YVT, the Wiley City line, was finished in 1910. The track out Summitview Avenue was also finished that year. And in 1910, the car barn-shop facility at Third Avenue and Pine Street was constructed.

Plans to cross the Yakima River and run a line east into Moxee were advanced in 1911. This project even included a proposal to dig a tunnel to divert Yakima River water to a power house for the generation of the railroad's own power. Farmlands to the west and north took precedence, however, and the Moxee line was never finished.

By 1912, construction was well underway on the Henrybro and Selah interurban trackage. The Selah line presented more engineering challenges than any other route on the railroad. The first obstacle was the Naches River, over which the existing double span truss bridge was built.

The climb through Selah Gap was difficult because the only water-level route available through the Gap had already been taken by the Northern Pacific Railway. YVT was forced to carve a shelf out of the rock wall above the Northern Pacific tracks. Dynamite was used where possible, but because of the proximity to the tracks below, most of the work had to be done by manual labor. Many idle farmhands were hired for this work, as had been the case on previous track construction projects. They worked with pick, shovel and mule cart, and received seventy-five cents for a day's work.

The railroad's ambitions did not end once it reached Selah. To tap new agricultural districts, the line was pushed on to Taylor and later Speyer's Station, some five or six miles northwest of Selah. A loop from there to

Selah was originally planned, but the drop back to town was just too steep. The line was never extended any further than Speyer's Station (see attached copy of 1912 company map).

Meanwhile, tracks were built into Selah's packing house district and west along Fruitvale Boulevard. By 1920, the YVT reached its maximum length, but a clear trend was developing even then. The agricultural lines were profitable, but the passenger routes were not. Automobiles and all-weather roads were rapidly replacing the interurban railroad's passenger-hauling function. This was typical of the pattern of the electric interurban railroads all over the United States. The decade of the 1920s, in fact, was essentially the decade of the demise of American interurbans.

YVT's first abandonments came in 1921. North Fourth Street, Maple Street, and part of the Fairview line were eliminated. By 1926, Summitview was gone also.

Permission to abandon the remaining interurban passenger service was granted by the State Supervisor of Transportation in 1935. The railroad wanted to eliminate all local passenger service as well, but the terms of its franchise with Yakima required YVT to operate such passenger service wherever it maintained freight service within city limits.

By the mid-1940s, Yakima was the only city in Washington still serviced by electric streetcars. The general public desired to be rid of the streetcars and the associated wires and tracks. When YVT's franchise came up for renewal in 1946, the city demanded removal of streetcar tracks on Yakima Avenue and substitution of bus service.

YVT saw this as an opportunity to reach a compromise with the city. All trackage on Yakima Avenue (and in fact nearly everything east of Sixth Avenue) was removed and service replaced by buses. YVT was relieved of its obligation to provide streetcar service on other lines. A new 25-year franchise was granted after this agreement was reached.

The last streetcar runs were made on February 1, 1947. YVT continued to operate the city buses until 1957 and then turned that operation over to a private company.

Freight service on remaining interurban lines continued to generate adequate revenue after 1947. Tight track curvatures as well as a functional, in place, paid-for electrical system kept the YVT electrified in an era when other remaining interurbans converted to diesel power.

The Walla Walla Railway, a line whose history, size, and character are similar to the YVT, dieselized in the 1940s. Like the YVT, the Walla Walla Valley was absorbed by a larger steam railroad, the Northern Pacific Railway. The Walla

Walla Valley kept its corporate identity into the early 1980s and, like the YVT, was granted permission by the Interstate Commerce Commission to abandon all service early in 1985.

The YVT experienced an ever-worsening decline in freight business in the 1970s and 1980s. Just as the automobile had pushed the railroad out of passenger service, the long trucks were now taking away its freight business.

At the same time, the Nob Hill Boulevard situation continued to concern the YVT. Nob Hill Boulevard had become a major arterial street with extensive commercial development. Inevitable conflicts between motor vehicles and trains plagued the city and the YVT. The city wanted to widen and improve the street to eliminate traffic delay, but the YVT trackage in the northernmost lane thwarted all plans. When the franchise came up for renewal in 1971, motorists and residents clamored for removal of YVT's tracks from Nob Hill Boulevard, contending that the rails and trains constituted a safety hazard and stood in the way of progress. The Yakima City Council responded by asking the railroad to remove or relocate its tracks as a condition for renewal of the franchise.

YVT was not yet able to abandon service on the lines served by the Nob Hill trackage, so it offered a proposal to relocate its track to a new right-of-way on the north edge of the street if the city would share the cost. The city accepted this proposal and a new franchise was issued in 1973 for a ten-year term. The franchise also required the railroad to limit its hours of operation and to place warning flashers on its trains. For various reasons, the city never adopted a plan providing a new YVT right-of-way along Nob Hill Boulevard, and YVT trackage consequently was never relocated.

In 1974, two wooden single-truck trolleys similar in appearance to early YVT models, were purchased and brought to Yakima by a consortium of private and public agencies. Every year since 1974, the two trolleys have been operated over the entire YVT railroad under the direction of the Yakima Visitors and Convention Bureau and the non-profit Yakima Interurban Lines Association. These antique streetcars have become a very popular tourist attraction and were Yakima's project for the national bicentennial observance.

The Bicentennial trolleys are the newest addition to the YVT electrification roster that has included altogether eleven single-truck city streetcars, seven double-truck city streetcars, four interurban passenger cars, two interurban express locomotives, and four freight locomotives.

YVT continued to lose the perishable fruit traffic to trucks and, by the early 1980s, the line became unprofitable. The franchise came up for renewal in 1983 and the city again requested removal of the Nob Hill Boulevard trackage. In view of declining traffic, red ink, and the city's insistence that trackage be

removed from Nob Hill Boulevard, management decided in 1984 to apply for abandonment of the entire railroad. Authority to abandon was received from the Interstate Commerce Commission in June 1985, and YVT's plans to abandon all service in late 1985.

In conjunction with abandonment, Union Pacific agreed to donate to the city of Yakima the entire YVT railroad, including wires, tracks, rolling stock, parts, etc., with the exception of the carbarn, real property at Third Avenue and Pine Street and locomotive 297 (to be donated to Orange Empire Trolley Museum in Perry, California). Although freight service on the YVT will end with abandonment, the Bicentennial trolleys will continue to operate through the close of the 1985 season. The city will study future operation of the trolleys on the YVT with the Yakima Interurban Lines Association. The outcome will determine the future of the YVT.

Wiley City Line

The route to Wiley City is the oldest remaining YVT line. Beginning at the Third Avenue and Pine Street shop area (see HAER Photographs No. WA-13-1 through WA-13-9), this line proceeds west southwest in the middle of Pine Street (see HAER Photographs No. WA-13-14 and WA-13-15). At Eleventh Avenue, it enters a short stretch of private right-of-way and emerges onto Tieton Drive. It follows Tieton Drive due west until it reaches Sixteenth Avenue. At Sixteenth Avenue, the line turns south, again running in the middle of the street, until it reaches Nob Hill Boulevard at a point formerly referred to as Johnson's Corner (see HAER Photograph No. WA-13-16).

All of the line from about Sixth Avenue to Johnson's Corner passes through older residential districts. The overhead electrical trolley wire on this section is suspended above the track by support wires attached to poles on both sides of the street.

From Johnson's Corner, the line heads west along the north side of Nob Hill Boulevard, sometimes occupying a paved lane and sometimes occupying a dirt strip (see HAER Photograph No. WA-13-17). The Nob Hill trackage is the railroad's only connection to the fruit districts west of Yakima. The Wiley City Line, Henrybro Line, and the Orchard Line must use the Nob Hill trackage to reach Yakima. The Nob Hill trackage passes through a mixture of mostly older residences on the north side and various forms of businesses on the south side.

At Fortieth Avenue, the Nob Hill line moves onto a private right-of-way north of the road and so continues until it reaches Forty-eighth Avenue, where it crosses Nob Hill Boulevard diagonally southwest and enters private right-of-way.

The private right-of-way bisects the large Congdon Orchards property. At one-fourth mile from Nob Hill Boulevard, the line enters a small cut, passes under a concrete overpass, and turns west, passing the large stone mansion commonly called Congdon's Castle (see HAER Photographs No. WA-13-18 through WA-13-24). Three-fourths of a mile further west, still in Congdon's orchards, the track reaches Wide Hollow Junction where the Wiley City line and the Henrybro Line diverge (see HAER Photographs No. WA-13-25 through WA-13-27).

Passing to the south of the small substation building located at Wide Hollow Junction, the Wiley City line curves to the south and proceeds along a dirt strip on the west side of Sixty-fourth Avenue. For another half mile, the route is still alongside Congdon's orchards.

Sixty-fourth Avenue makes a slight jog to the west and YVT's line, remaining straight, crosses Sixty-fourth Avenue and is located on a strip along the east side of the road. The track crosses Lower Ahtanum Road, curves west and runs parallel to the road on the south side. The right-of-way abuts small farms and residences.

At Ahtanum, the railroad passes directly north of two very old landmarks, the Woodcock Academy and Ahtanum Pioneer Congregational Church (see HAER Photograph No. WA-13-32). West of Ahtanum, the track again turns southwest and proceeds along a private right-of-way through open farm and pasture lands (see HAER Photograph No. WA-13-33).

At about three-fourths of a mile from Ahtanum, the track again turns west and terminates at Wiley City near the Gilbert packing house (see HAER Photograph No. WA-13-34). Wiley City is a very small town situated in open farmlands.

Henrybro Line

The Henrybro Line follows the same route as the Wiley City Line until it reaches Wide Hollow Junction. At the junction, the Henrybro Line continues straight west, crossing Sixty-fourth Avenue and proceeding through more of Congdon's orchards (see HAER Photograph No. WA-13-28). The private right-of-way emerges from Congdon's orchards, passes a mixture of residences and small farms, and meets Wide Hollow Road at Westbrook. The major feature at Westbrook today is the large Highland Fruit packing house along YVT's line.

The Henrybro Line, Wide Hollow Road, and to a certain extent Wide Hollow Creek, all run west together. At Harwood, the railroad passes directly north of an old landmark, the Harwood Hotel (see HAER Photograph No. WA-13-29).

West of Harwood, the line meanders slightly northwest, passing a large cemetery and following a private right-of-way through open pasture land (see HAER Photograph No. WA-13-30). It terminates at what remains of the Henrybro

community (see HAER Photograph No. WA-13-31). Henrybro (also known as Gromore) formerly had a large packing house at the end of YVT's line. The structure burned down a number of years ago and consequently the Henrybro Line has not seen much use beyond the Highland warehouse in recent times.

Orchard Line

The Orchard Line diverges from the Wiley City-Henrybro trackage at Nob Hill Boulevard and Forty-eighth Avenue. It continues directly west a couple of blocks and then curves sharply to the north (see HAER Photograph No. WA-13-35) for approximately one-half mile. It serves several fruit packing houses such as Pyramid and Pacific Fruit. It terminates just short of Chestnut Avenue (see HAER Photograph No. WA-13-36). It was originally planned to continue the Orchard Line another block north and to connect to the Summitview line (now abandoned) to form a loop. This plan was never carried out.

Selah Line

The Selah Line begins at the intersection of Sixth Avenue and Pine Street (see HAER Photograph No. WA-13-37). It turns northwest from Pine Street trackage at what was once a wye. Today, only the south and east legs of the wye are intact, although the overhead wire for the west leg of the wye is still in place (see HAER Photograph No. WA-13-G-2).

Passing Davis High School, the route runs in the middle of Sixth Avenue through a light commercial and business district (see HAER No. WA-13-38). It crosses Yakima Avenue and subsequently turns straight north on Sixth Avenue through an older residential district.

YVT's only crossing of another railroad is located near Madison Avenue. Burlington Northern's Cowiche-Tieton branch crosses the YVT at this point (see HAER Photograph No. WA-13-39). North of the railroad crossing is the Yakima Manufacturing Company complex which includes the Yakima Pine Products Company and the Yakima Door Factory. This plant is YVT's most important customer and is served by two spurs off the main line (see HAER Photograph No. WA-13-40).

The line continues along the east side of Sixth Avenue in a dirt strip. It passes several orchards before running under U. S. Highway 12. Beyond Highway 12, the Selah Line crosses the Naches River Bridge (see HAER Photographs No. WA-13-F-1 through WA-13-F-7) and begins to climb along the wall of Selah Gap. The line here is on a shelf chiseled out of the steep rock wall (see HAER Photograph No. WA-13-41). It reaches its highest point above the Yakima River near an area referred to as Convict's Cave. Remains of an old quarry and rock crushing plant are located here (see HAER Photograph No. WA-13-42).

The line then descends along the north side of Selah Gap and follows a right-of-way in a dirt strip adjacent to the west side of First Street until it reaches downtown Selah (see HAER Photograph No. WA-13-43). Here it crosses First Street and follows another private right-of-way east for several blocks to Selah's packing district (see HAER Photograph No. WA-13-44). The district contains YVT's only intact wye for turning cars or locomotives.

The Selah Line ends in a complex of fruit packing houses at Larson Fruit Company (see HAER Photograph No. WA-13-45).

Yakima Spurs and Union Pacific Interchange

From the YVT shop area on Pine Street, the track also leads east and north to two small spurs. The northern spur serves Kobernik Mill on Second Avenue between Pine Street and Walnut Street (see HAER Photograph No. WA-13-13). Further north on Second Avenue, YVT rails are clearly visible in the pavement, a reminder of the days when this line connected with the abandoned local passenger line along Yakima Avenue.

From Pine Street, another track curves southeast into Union Pacific Railroad's freight yard. YVT uses part of this yard to interchange with the Union Pacific, and overhead trolley wires are strung above as many as five of the tracks in the yard (see HAER Photograph No. WA-13-10 through WA-13-12). All freight entering and leaving Yakima over YVT rails passes through this yard. This district contains mostly light industry and some vacant land.

Central Shop Complex

The YVT central shop complex is located on a parcel of land bounded by Pine Street on the north, Third Avenue on the east, Fourth Avenue on the west, and the Atlantic Richfield Company on the south (see HAER Photographs No. WA-13-1 through WA-13-9). (Also see attached sketch site plan of central shop area.)

Main Shop Building - Carbarn

The main shop building, or car barn, is the largest of the buildings in the shop complex and is situated on the north side, abutting Pine Street (see HAER Photographs No. WA-13-A-1 through WA-13-A-20). It is rectangular in shape and constructed primarily of rough-cut sandstone. The upper portion of the long walls is brick with arched clerestory-type windows. The roof is an arched wooden truss type. It formerly had a monitor on top, but this feature was removed in 1976 and the resulting hole covered with wood.

The shop building is quite tall. This enables a 15-ton Niles crane to roll back and forth above the tracks inside. The crane is used to lift locomotives and traction motors for repair. An array of lathes, drill presses, grinders,

and other elderly machinery (all driven by a common overhead belt drive system) remains intact inside the building. This portion of the building has been used primarily for maintenance and repair of the YVT's locomotives and streetcars. It currently also serves as a secure storage space for YVT's remaining locomotives.

A lower wing on the east side of the building, also constructed of stone, houses YVT's trainmen's room, blacksmith shop, and supply storage rooms. Formerly, there was another wing attached to the west side of the building for storage of streetcars. This structure, called the "running barn," was made primarily of wood, had four tracks inside, and was demolished in 1976. Its stone foundation and tracks remain.

The main shop building was constructed in the summer of 1910 at an approximate cost of $30,000.00. Its architect was Edward M. Kenly.

Main Power Substation

South and east of the main shop building is YVT's main substation (see HAER Photographs WA-13-B-1 through WA-13-B-11). This poured-concrete building with wood truss roof provides ample room for YVT's main electrical generating station. The interior is divided into a large generator room, two small offices and a vault. The ceiling is faced with decorative pressed metal.

The generator room contains the YVT's two original motor-generator sets as well as the transformers and switchboards used to operate them. When in use, this system converted 6,600 volts of alternating current, purchased from the local power utility, to 600 volts of direct current for use by the trolleys and locomotives.

The 600 volts direct current is fed to the system by large feeder wires that exit the substation and follow each of the main lines. Taps from the feeder wires at various intervals connect to the overhead trolley wire. Streetcars or locomotives pick up the 600 volt current from the trolley wire via trolley poles and the current is routed to the traction motors. Ground return is provided through the rails of the tracks and every rail joint on the system is bonded to insure a continuous circuit.

In 1979, the motor-generator sets were retired, but left in place. New, much smaller, rectifier equipment was installed in the substation, and took over the function of power supply. The rectifiers convert 480 volts of alternating current to 600 volts of direct current.

The substation's two small offices were used, during streetcar days, as a ticket office and waiting room. Today, they are used for storage. The vault contains a number of the railroad's business papers, mostly work order forms from day-to-day operations through the years.

Stone Storage Shed

A small stone shed, also built of sandstone in 1910, is located east of the main shop building. It has a wood door and roof. This shed has been used for storage, possibly of flammable materials (see HAER Photographs No. WA-13-C-1 through WA-13-C-5).

Warehouse

Southwest of the main shop building is a warehouse of wood frame construction with corrugated metal siding and roof. It was formerly twice its present size, the west half being demolished in a windstorm in 1983. The warehouse was built in 1931 and has two rooms for storage of equipment and supplies. The small south room is at ground level while the larger north room is built up on a platform that is approximately the same level as the floor bed of locomotives and railroad cars. This facilitates loading and unloading. (See HAER Photographs No. WA-13-D-1 through WA-13-D-6.)

Shop Grounds

The grounds of the shop complex are covered with gravel. On the extreme southwest corner, there is a metal building that is used to house the two Yakima Bicentennial trolleys. This building was erected in 1974 by private donors at the time the trolleys were purchased by the city.

A pair of flatcars and a tank car are stored on the grounds on the spur track. A good supply of poles, rails, crossovers, and other rail hardware are stored on the shop complex grounds, too (see HAER Photographs No. WA-13-K-1 and WA-13-K-2).

Wide Hollow Junction Substation

In order to give the D.C. electric current a "boost" at the far ends of the Wiley City and Henrybro lines, another motor-generator set was installed at Wide Hollow Junction. A small poured-concrete building with gabled roof was erected to house this substation in 1922. The motor-generator set is similar in construction and operation to those at the main substation and was similarly replaced by rectifier equipment in 1979 (see HAER Photographs No. WA-13-E-1 through WA-13-E-8).

Naches River Bridge

This bridge consists of two through steel Pegram truss spans with one trestle approach and one reinforced concrete approach. The bridge was built in 1912 and is 324 feet long. Each truss span is 147.5 feet long. It sits on concrete piers, one of which was erected in the center of the Naches River

(see HAER Photographs No. WA-13-F-1 through WA-13-F-7). (See also attached diagram and information sheet titled: "Naches River Crossing.)

Tracks

Most of YVT's trackage consists of 60 pound rail (per three-foot length). Much of the early track work did not utilize tie plates. Rails were simply spiked directly to the ties. This practice causes increased wear and shortens tie life. In later years, tie plates were always used. Most of the rail in use today is original, as evidenced by the dates embossed in the web (see HAER Photograph No. WA-13-G-8).

Track located in paved streets is mostly of the guard rail type in which a second rail was laid directly inboard to the main rail. Thus the space created provided a flangeway (see HAER Photograph No. WA-13-G-4). In a few paved areas, there is a two-rail arrangement that resembles the girder rail formerly seen on large traction systems of the East. It is made by laying a second inboard rail on its side with its railhead pushed in against the web of the main rail (see HAER Photograph No. WA-13-G-5).

Turnouts follow typical early twentieth century interurban construction design, both for paved and unpaved trackage. However, at the Yakima Manufacturing Company spurs, there are rare single-point type turnouts. This type has only one moving part. When the switch is set for straight track, the wheel flanges are guided in the conventional fashion. When it is turned for the diverging track, the flanges are guided from the back side. There is no throw mechanism used with this type of switch; the switchman simply uses a pry bar carried on the locomotive to push the point in the desired direction. This type of switch is distinctive to older trolley operations, and it is no longer in use on any diesel railroad (see HAER Photograph No. WA-13-G-6). Typical double movable point switches are used for most YVT turnouts (see HAER Photographs No. WA-13-G-3 and WA-13-G-7).

Overhead Wires

The copper trolley wire from which YVT electric locomotives and streetcars obtain 600 volt direct current power is suspended above the track generally by one of two methods. Wire for track running down the center of roads is suspended by connecting wires attached to poles on both sides of the road (see HAER Photograph WA-13-15).

Where the track runs beside the road or on a private right-of-way, the wire is suspended from mast bracket arms mounted on trackside poles. The poles also support the larger feeder wires from the substations and the small telephone wires which formerly laced the entire system (see HAER Photographs No. WA-13-28 and WA-13-G-1).

While YVT does not use a true catenary support system for any of the overhead wire, there is an attempt to minimize wire droop in the Union Pacific yard. Where there are multiple side-by-side tracks at this location, a secondary connecting wire is strung above the primary wire and supports it in two places (see HAER Photograph No. WA-13-11).

Line Car A

Line Car A was the first electric locomotive purchased by the YVT. It was ordered in 1909 and delivered in June 1910. It was built by the Niles Car Company of Niles, Ohio.

Line Car A was originally a 23-ton, steel frame, flatbed, center cab, freight locomotive. After newer, heavier locomotives were purchased a decade or so later, YVT outfitted the A for overhead trolley line work. It continues to be used in that service today. By virtue of YVT's Union Pacific affiliation, Line Car A is the oldest locomotive in regular service owned by a Class 1 railroad in the United States.

One end of the A contains a wood tower and platform which can be raised and turned. From this platform, line crews work on trolley wires and poles. The other end of the A has a tool and supply shed. In addition, a number of spools, wires, posts, tools, etc., are hung on the car in every conceivable location.

Beneath the clutter and add-ons, however, the car is essentially a fully-preserved, 1910 state-of-the-art example of electric locomotive. Even the original carbon arc headlights are still in use (see HAER Photographs No. WA-13-J-1 through WA-13-J-3).

Locomotive 297

Locomotive 197 is a 50-ton, steel, box-cab, electric freight locomotive. It was built in 1923 by Baldwin-Westinghouse for the Glendale & Montrose Railway located in the northern suburbs of Los Angeles. The Glendale & Montrose was an interurban electric railroad similar to YVT and also was owned by Union Pacific. In the late 1930s, Union Pacific discontinued electric service over a portion of the Glendale & Montrose and transferred locomotive 297 to the YVT. It was operated on the YVT ever since. In recent years, the 297 has filled the role of standby locomotive for the YVT (see HAER Photographs No.WA-13-H-1 through WA-13-H-4).

Locomotive 298

Locomotive 198 is a 50-ton, steel, steeple-cab electric freight locomotive built in 1922 by General Electric for the YVT. The 198 has been in continuous service for the YVT since delivery. Because visibility is very good from the

centrally-located control cab, the 298 is preferred by train crews. Consequently, the 298 is the electric locomotive used most often by the railroad (see HAER Photographs No. WA-13-I-1 through WA-13-I-3).

All of YVT's electric locomotives are four-motor, double-truck engines. They are all painted in the Armour yellow and gray paint scheme of the parent Union Pacific System. In earlier years, they were painted black. Aside from yellow paint and rooftop warning flashers, locomotives 297 and 298 have remained essentially unchanged since the time they were built.

BIBLOGRAPHY

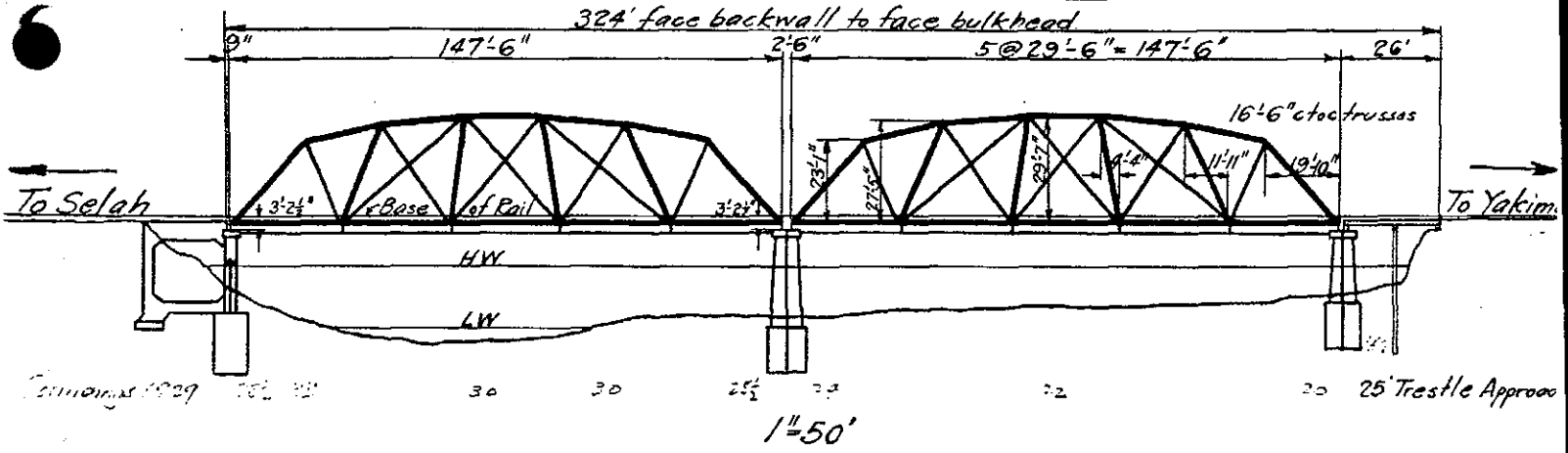
Much of the information in this report was derived from a study of YVT company records, a study of early-day Yakima newspapers, and from direct interviews with people associated with early YVT activities or early Yakima history. For further reading on the YVT or on interurban railroads in general, the reader is referred to the following books:

Hilton, George W. and John F. Due. The Electric Interurban Railways in America. Stanford, California: Stanford University Press, 1960.

Johnsen, Kenneth G. Apple Country Interurban. San Marino, California: Golden West Books, 1979.

Middleton, William D. The Interurban Era. Milwaukee, Wisconsin: Kalmbach Publishing Company, 1961.

NACHES RIVER CROSSING



1"=50'

Location	2 miles east Selah.
Number	1.
Mile Post	
Alignment	Tangent
Grade	+1.50 ←
Live Load	E 25
Date Built	1912
Deck	Open.

Superstructure: 2-147'-6" Thru Pegram Spans.
Substructure: 1-Reinforced concrete abutment on rock.
2-Concrete piers on gravel.

Cost: Superstructure: $11400
Substructure: 14600
Total : $26000.

Substructure

Contractor: W. L. Tribble
Engineer: M. C. Williams

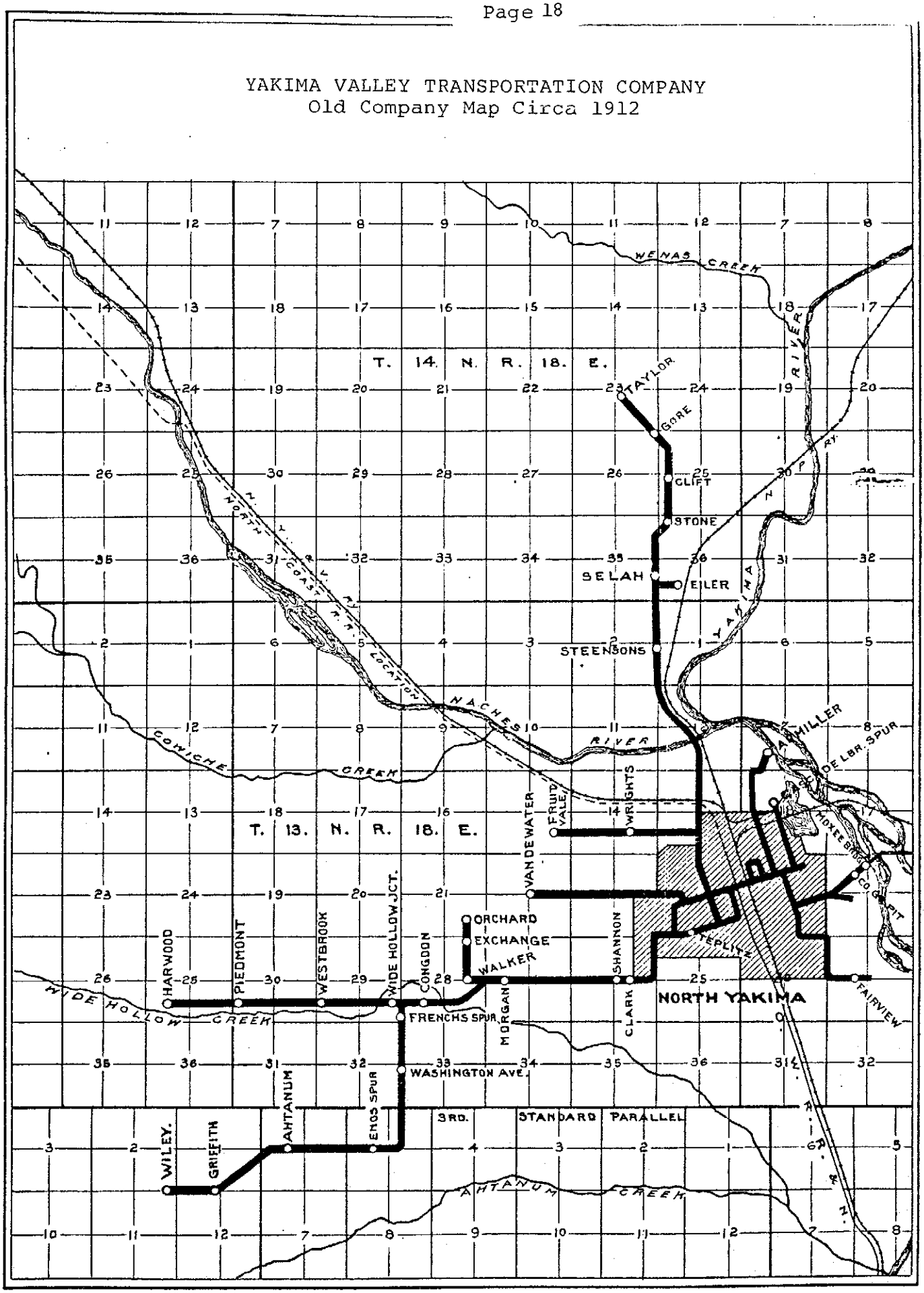
	Quantities	Contr. Price
Excavation: dry earth	63 yds.	0.50 yd.
dry medium	1790".	0.75".
wet medium	823".	2.00".
solid rock	52".	3.50".
Timber in cribs	49.7M.	25.00M.
Backfill	324 yds.	0.20 yd.
Concrete: Reinforced	131.6".	12.00".
1:3:5	303.3".	8.50".
1:3:6	487.0".	8.00".
Reinforcing steel	8375#	0.05#
Total Concrete	921.9 yds.	

Superstructure

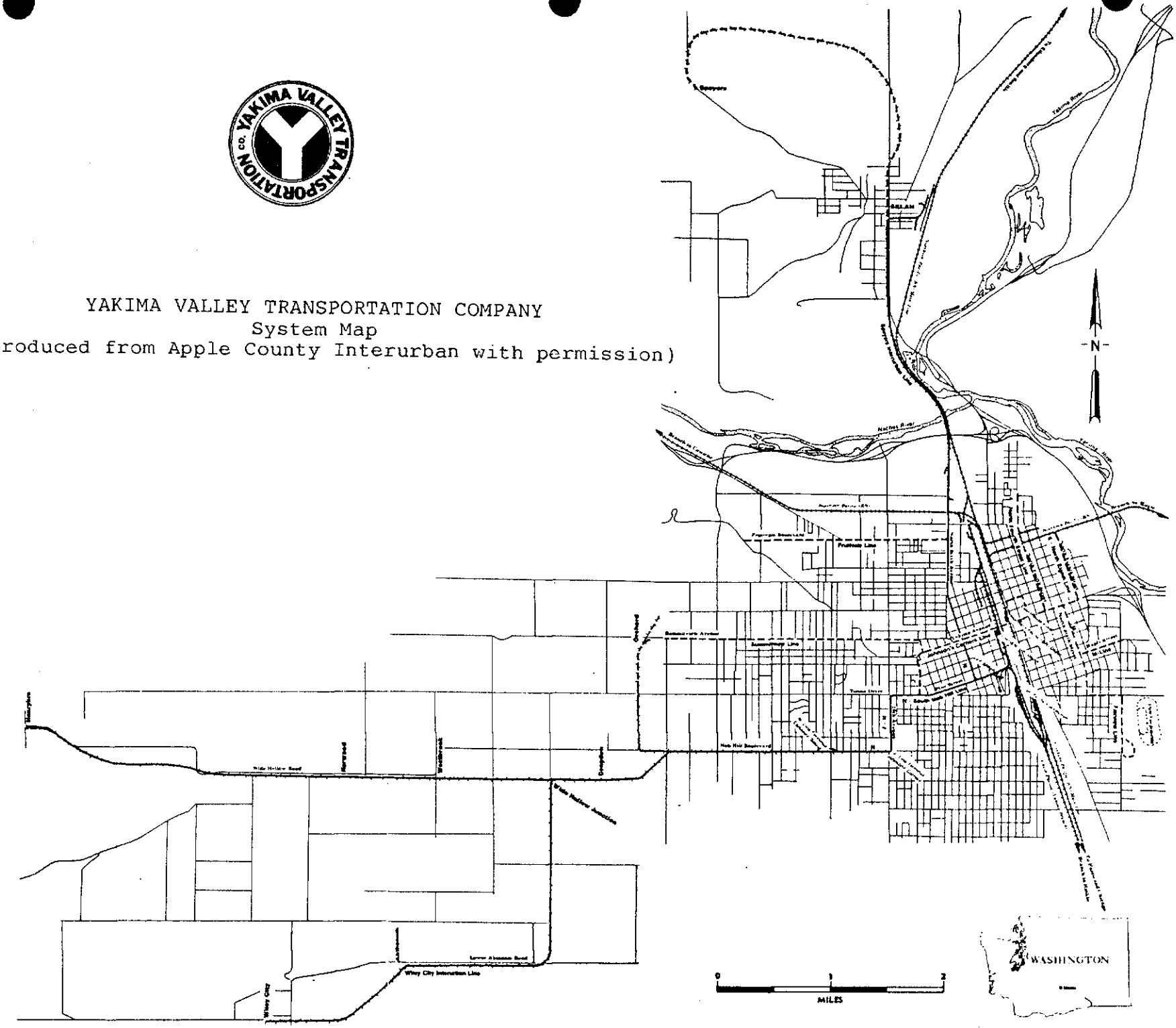
Contractor: Washington Contr. Co.
Engineer:

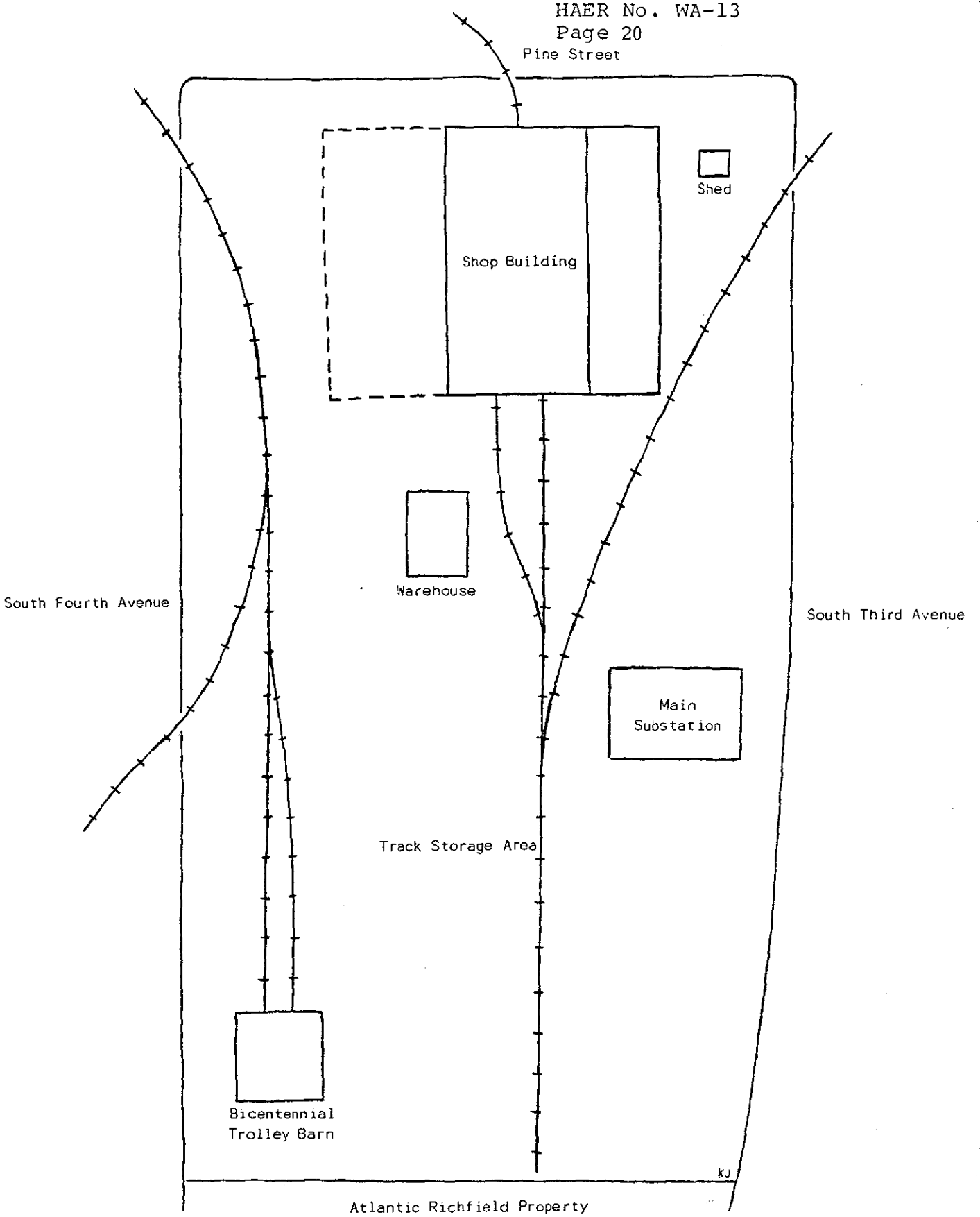
	Quantities	Contr. Price
Structural Steel	286,200#	17.50 to
Spans fabr. 1895; from Bridge #1081 over Blue River on Union Pacific R.R.		
Painting		$175
Placing deck	22.3M	11.00M
Steel f.o.b. U.P.		25.00 to
Freight		21.40 "
Erection		17.50 "
Painting		1.20 "
Total		65.10 "

YAKIMA VALLEY TRANSPORTATION COMPANY
Old Company Map Circa 1912



YAKIMA VALLEY TRANSPORTATION COMPANY
System Map
(Reproduced from Apple County Interurban with permission)





Sketch Site Plan
YVT CENTRAL SHOP AREA
(not drawn to scale)